

REMARKS

By this Amendment, Claims 1, 5 and 10-12 are amended, Claims 4 and 6 are canceled, new Claims 20-22 are added, and Claims 9 and 13-19 are withdrawn from consideration. Reconsideration of the June 23, 2005 Office Action is respectfully requested.

Applicants gratefully acknowledge the June 20, 2005 telephone interview with the Examiner during which a provisional election, without traverse, was made to prosecute the invention of Group I. In response to the Restriction Requirement in the Office Action dated June 23, 2005, Applicants hereby elect the invention of Group I, defined by Claims 1-8 and 10-12, for prosecution.

Claim 1 has been amended to incorporate the subject matter of Claims 4 and 6, which have been canceled. Claim 1, as amended, recites a partition member that separates a hollow portion into a center area and an end area. Support for this change can be found at page 17, lines 12-17 of the specification. Further, Claim 1 has been amended to recite a gas supply portion having mutually independent gas flow passages, wherein at least one gas flow passage supplies said gas via through holes to said center area, and at least one gas flow passage supplied said gas via through holes to said end area, wherein the gas flow rates in the mutually independent gas flow passages are independently controlled. Support for this change to Claim 1 can be found at page 14, lines 15-21, page 17, line 25- page 18 line 11, and page 23, lines 19-24.

Claim 5 has been amended to depend from Claim 2 and to correct a typographical error. Claim 11, as amended, recites a process system wherein a first diffusion portion has a plurality of cylindrical members, and each cylindrical

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member comprises said plurality of linear holes formed from a sidewall of said cylindrical members toward a center thereof. Support for the changes to Claim 11 can be found at page 26, lines 4-19 of the specification. Claim 12, as amended, recites a process system wherein the cylindrical members respectively constitute gas flow passages independent from each other. Support for the changes to Claim 12 can be found at page 27, lines 15-21 of the specification.

New Claim 20 recites a process system wherein mutually independent gas flow passages are adapted to receive process gas from a common gas supply source. Support for new Claim 20 can be found at page 14, lines 11-14 of the specification. New Claim 21 recites a process system comprising mutually independent gas flow passages, wherein at least one gas flow passage supplies a process gas into a center area of the chamber, and at least one gas flow passage supplies a process gas into an end area of the chamber, wherein the process gas in a first independent gas flow passage and the process gas in a second independent gas flow passage do not mix before flowing into the chamber. Support for new Claim 21 can be found in the specification at page 14, lines 15-21 and in Figure 5. New Claim 22 recites independent control of process gas flow rates in mutually independent gas flow passages. Support for new Claim 22 can be found in the specification at page 14, lines 15-21, page 17, line 25- page 18 line 11, and page 23, lines 19-24. As no new matter has been introduced by these changes, they should be entered at this time.

Rejections under 35 U.S.C. § 112

Claims 1-8, and 10-12 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

As suggested in the Office Action, the term “horizontal” in Claims 1 and 10 has been replaced with the term “parallel.” Claim 4 has been canceled and Claims 8 and 11-12 have been amended to correct the deficiencies. No further correction is deemed necessary. Withdrawal of the rejection is respectfully requested.

Rejections under 35 U.S.C. § 102

Claims 1-6 and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Dhindsa et al., U.S. Patent No. 6,245,192. Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Thomas, U.S. Patent No. 5,266,153. Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Zhao et al, U.S. Patent No. 5,558,717. Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Dunham, U.S. Patent No. 6,206,972. Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Hao et al., U.S. Patent No. 6,415,736. Claim 1 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Hytros et al., U.S. Patent Application No. 2001/0124842. Claims 7, 8, 11 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dhindsa et al., U.S. Patent No. 6,245,192, in view of Fujikawa et al, U.S. Patent No. 5,595,606.

Claim 1 has been amended to recite a process system comprising (i) a chamber; (ii) a supply plate which has a plurality of gas holes and supplies a

process gas into said chamber through said gas holes; (iii) a first diffusion portion which diffuses said gas in a direction approximately parallel to a major surface of said supply plate; and (iv) a second diffusion portion which leads said gas diffused by said first diffusion portion to said gas holes, said second diffusion portion comprised of a disk-like member having a groove formed in one side thereof, said groove having through holes formed therein, wherein said second diffusion portion is placed over said supply plate to form a hollow portion between said disk-like member and said supply plate such that said gas can be supplied from said first diffusion portion to said hollow portion; said process system further comprising a partition member in said hollow portion which separates said hollow portion into a center area and an end area, and a gas supply portion comprising mutually independent gas flow passages, wherein at least one gas flow passage supplies said gas via through holes to said center area, and at least one gas flow passage supplied said gas via through holes to said end area, wherein the gas flow rates in the mutually independent gas flow passages are independently controlled.

Thus, in Applicants' process system, because the center area and the edge area of the hollow portion are separated by a partition member, the process gas from one gas flow passage does not substantially mix with the process gas from another gas flow passage until the process gas passes through the showerhead (i.e., enters the chamber).

In contrast, in the gas distribution apparatus of Dhindsa, gas from each gas supply enters an open plenum between baffle plates or between the bottom baffle plate and the showerhead. Referring to column 5, lines 37-55 and Figures

4-6 of Dhindsa, gas from a first gas supply can flow through openings 80 to openings 82 in lower baffle plate 56B. Gas from a second gas supply can flow though openings 84 in lower baffle plate 56B. Thus, in the embodiment disclosed by Dhindsa, "gas from both the first and second gas supplies mixes in the channels 88 in the underside of the lower baffle plate above the top surface of the showerhead" (see column 6, lines 10-19). Applicants submit that Claim 1, as amended, is not anticipated by Dhindsa. Furthermore, Applicants submit that none of the other cited references anticipate the process system of Claim 1, as amended.

With respect to the rejection of Claims 7, 8, 11 and 12, Applicants respectfully submit that Fijikawa fails to cure the deficiencies of Dhindsa with respect to the subject matter recited in Claim 1. Accordingly, Claims 7, 8, 11 and 12 are deemed patentable. Withdrawal of the rejection is respectfully requested.

New independent Claim 21 recites a process system wherein process gas in a first independent gas flow passage and process gas in a second independent gas flow passage do not mix before flowing into the chamber. Applicants submit that Claim 21 is patentable at least for the reasons discussed above with respect to Claim 1. Dependent Claim 22 is therefore also patentable.

It is submitted that the differences between the claimed subject matter and the prior art are such that the claimed subject matter, as a whole, would not have been obvious to a person having ordinary skill in the art at the time the invention was made.

In view of the foregoing, it is submitted that the present application is in condition for allowance and such action is earnestly solicited.

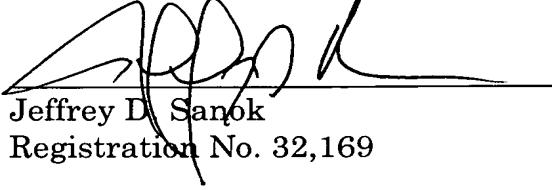
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If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

Respectfully submitted,

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